

Date: Mon, 26 Sep 94 13:06:44 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V94 #1066  
To: Info-Hams

Info-Hams Digest                      Mon, 26 Sep 94                      Volume 94 : Issue 1066

Today's Topics:

    Daily Summary of Solar Geophysical Activity for 24 September  
    STD: Weekly Solar Terrestrial Forecast & Review for 23 September  
        TH-75A mods (marine VHF broadcast)

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.  
-----

Date: Sat, 24 Sep 94 21:48:33 MDT  
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!gatech!  
newsxfer.itd.umich.edu!nntp.cs.ubc.ca!unixg.ubc.ca!quartz.ucsf.ualberta.ca!alberta!  
ve6mgs!usenet@network.ucsd.edu  
Subject: Daily Summary of Solar Geophysical Activity for 24 September  
To: info-hams@ucsd.edu

/\

DAILY SUMMARY OF SOLAR GEOPHYSICAL ACTIVITY

24 SEPTEMBER, 1994

/\

(Based In-Part On SESC Observational Data)

SOLAR AND GEOPHYSICAL ACTIVITY INDICES FOR 24 SEPTEMBER, 1994  
-----

!!BEGIN!! (1.0) S.T.D. Solar Geophysical Data Broadcast for DAY 267, 09/24/94  
 10.7 FLUX=072.8 90-AVG=079 SSN=020 BKI=2320 0102 BAI=004  
 BGND-XRAY=A1.2 FLU1=1.6E+06 FLU10=1.4E+04 PKI=2321 1112 PAI=005  
 BOU-DEV=013,039,013,004,004,006,003,012 DEV-AVG=011 NT SWF=00:000  
 XRAY-MAX= A4.8 @ 1236UT XRAY-MIN= A1.0 @ 1058UT XRAY-AVG= A1.6  
 NEUTN-MAX= +003% @ 1825UT NEUTN-MIN= -001% @ 1605UT NEUTN-AVG= +0.4%  
 PCA-MAX= +0.1DB @ 1605UT PCA-MIN= -0.6DB @ 0330UT PCA-AVG= -0.2DB  
 BOUTF-MAX=55216NT @ 2307UT BOUTF-MIN=55197NT @ 1738UT BOUTF-AVG=55207NT  
 GOES7-MAX=P:+000NT@ 0000UT GOES7-MIN=N:+000NT@ 0000UT G7-AVG=+081,+000,+000  
 GOES6-MAX=P:+145NT@ 2101UT GOES6-MIN=N:-013NT@ 1843UT G6-AVG=+111,+025,+002  
 FLUXFCST=STD:074,076,078;SESC:074,076,078 BAI/PAI-FCST=010,010,010/012,015,015  
 KFCST=2133 3222 2135 5222 27DAY-AP=007,004 27DAY-KP=2322 1221 1131 1111  
 WARNINGS=  
 ALERTS=  
 !!END-DATA!!

NOTE: The Effective Sunspot Number for 23 SEP 94 was 22.0.  
 The Full Kp Indices for 23 SEP 94 are: 1- 1o 0o 1- 1- 2o 1+ 1+  
 The 3-Hr Ap Indices for 23 SEP 94 are: 3 4 1 3 3 8 5 5  
 Greater than 2 MeV Electron Fluence for 24 SEP is: 3.6E+06

#### SYNOPSIS OF ACTIVITY

Solar activity was very low. No flares were observed.  
 Region 7781 (S07W20) continues to grow slowly.

Solar activity forecast: solar activity is expected to be very low.

STD: A full-disk Yohkoh x-ray image has been appended to this report. Slightly enhanced x-ray emissions are beginning to become visible on the northeast limb near N06. The background x-ray flux is also climbing steadily into the A-class range. This is most likely attributed to slight but steady growth in Region 7781.

The geomagnetic field was quiet to unsettled.

Geophysical activity forecast: the geomagnetic field is expected to be quiet to unsettled.

Event probabilities 25 sep-27 sep

Class M	01/01/01
Class X	01/01/01

Proton 01/01/01  
PCAF Green

Geomagnetic activity probabilities 25 sep-27 sep

A. Middle Latitudes  
Active 30/30/30  
Minor Storm 15/15/15  
Major-Severe Storm 05/05/05

B. High Latitudes  
Active 25/25/25  
Minor Storm 20/20/20  
Major-Severe Storm 10/10/10

HF propagation conditions were normal over all regions.  
Near-normal propagation should continue, although there is a chance high and polar latitudes could see minor signal degradation (particularly on night-sector paths) over the next 3 days due to possible (as yet, unseen) effects of a transequatorial coronal hole.

STD ESTIMATED CORONAL HOLE BOUNDARY LOCATIONS DERIVED FROM YOHKOH X-RAYS

-----  
VALID AT 03:00UTC 24SEP94

"!H!" = Highly probable coronal hole locations.

"!W!" = Weak x-ray emissions (possible weak coronal holes).

!!!  
!! DOY=267 VALID=03:00UTC 24SEP94  
!H! N07W15 N06W21 N04W25 N04W28 N00W30 S04W34 S06W34 S11W32 S12W31  
!H! S12W29 S08W28 S02W26 S02W19 N02W16 N04W14 N07W13 N07W15  
!!  
!H! N72E90 N68E35 N60E16 N65E10 N67E07 N61W11 N52W23 N55W50 N55W71  
!H! N58W77 N58W90  
!!  
!H! S75E90 S60E26 S64E14 S60E08 S62W07 S68W12 S64W19 S64W35 S68W56  
!H! S72W90  
!!  
!W! S20E19 S14E21 S10E21 S04E14 S04E09 S08E05 S16E01 S20E02 S25E02  
!W! S28W05 S32W06 S37W02 S34E07 S28E10 S20E19  
!!  
!W! N08E38 N12E34 N13E27 N16E23 N24E22 N24E14 N22E12 N18E14 N15E13  
!W! N12E11 N07E16 N08E20 N08E26 N07E31 N04E37 N04E39 N08E38  
!!!

COPIES OF JOINT USAF/NOAA SESC SOLAR GEOPHYSICAL REPORTS

LISTING OF SOLAR ENERGETIC EVENTS FOR 24 SEPTEMBER, 1994

BEGIN	MAX	END	RGN	LOC	XRAY	OP	245MHZ	10CM	SWEEP
NONE									

POSSIBLE CORONAL MASS EJECTION EVENTS FOR 24 SEPTEMBER, 1994

BEGIN	MAX	END	LOCATION	TYPE	SIZE	DUR	II	IV
NO EVENTS OBSERVED								

INFERRED CORONAL HOLES. LOCATIONS VALID AT 24/2400Z

ISOLATED HOLES AND POLAR EXTENSIONS									
EAST	SOUTH	WEST	NORTH	CAR	TYPE	POL	AREA	OBSN	
NO DATA AVAILABLE FOR ANALYSIS									

SUMMARY OF FLARE EVENTS FOR THE PREVIOUS UTC DAY

Date	Begin	Max	End	Xray	Op	Region	Locn	2695 MHz	8800 MHz	15.4 GHz
NO EVENTS OBSERVED.										

REGION FLARE STATISTICS FOR THE PREVIOUS UTC DAY

	C	M	X	S	1	2	3	4	Total	(%)
Uncorrelated:	0	0	0	0	0	0	0	0	000	( 0.0)

Total Events: 000 optical and x-ray.

EVENTS WITH SWEEPS AND/OR OPTICAL PHENOMENA FOR THE LAST UTC DAY

Date	Begin	Max	End	Xray	Op	Region	Locn	Sweeps/Optical Observations
NO EVENTS OBSERVED.								

NOTES:

Acronyms used to identify sweeps and optical phenomena include:

SPECIAL INSERT: YOHKOH FULL-DISK X-RAY IMAGE

North

[illegible]



in helping us redistribute and market the line of software products we have developed. Specifically, we will shortly permit authorized individuals to RESELL and distribute the following:

- \* BCAST Solar and Geophysical Database Management Software.  
Contains all of the utilities necessary to use the Extended Database below. Also contains a large limited database of solar and geophysical data from 04 Sep 1991 to the 1993 with the ability to track solar and geophysical information to the present date. A powerful solar cycle analyst.
- \* Extended Database of Solar and Geophysical Data.  
Contains Sunspot numbers from 1818 to 1993, solar flux values from 1947 to 1993, and geomagnetic data from 1932 to 1993. Ideal for those studying solar cycles and related statistics on solar or geomagnetic storms.
- \* Professional Dynamic Auroral Oval Simulation Software.  
Determine when and where to look to see auroral activity. Simulates the position and appearance of auroral activity from any location on the Earth. Also simulates the appearance and location of the Sun and Moon and comes with an extensive database of auroral activity sightings.
- \* SKYCOM HF Ionospheric Signal Analyst Propagation Software.  
A sophisticated and powerful high-frequency propagation program. Ideal for radio communicators or listeners, commercial broadcasters, educators, and anyone else interested in radio propagation. Produce broadcast coverage maps, global maps of maximum usable frequencies, maps showing the proximity of signal paths to the auroral zones, and MUCH more. Ray-trace signals between any two paths. Produce an all-band spectrum analysis showing what bands or frequencies to use at specific times of the day, what transmission elevation angles to use, modes of communication, magnitude of multipathing, and MUCH more than is possible to list here. SKYCOM outranks most other propagation programs in features, power, and flexibility.

There are no special personal requirements to become authorized. Anyone can participate. To find out how, send a request for more information to: Oler@Ultrix.Uleth.CA or to: COler@Solar.Stanford.Edu along with your postal mailing address. We will send the required information to you through postal mail.

-----

SOLAR AND GEOPHYSICAL ACTIVITY FORECASTS AT A GLANCE

		10.7 cm	HF Propagation +/- CON							Mag		Aurora		
		SolrFlx	LO	MI	HI	PO	SWF	%MUF	%K	Ap	LO	MI	HI	
		---	-----	-----							----	-----		
September	23	072	G	G	F	F	05	-05	75	2 08	NV	NV	LO	
	24	074	G	G	P	P	05	-15	70	3 15	NV	NV	MO	
	25	074	G	G	P	P	05	-15	65	3 15	NV	NV	MO	
	26	074	G	G	P	F	05	-10	65	2 12	NV	NV	MO	
	27	076	G	G	F	F	05	-05	70	2 10	NV	NV	LO	
	28	076	G	G	F	F	05	00	70	2 08	NV	NV	LO	
	29	076	G	G	F	F	05	00	70	2 08	NV	NV	LO	
	30	078	G	G	F	F	05	00	65	2 08	NV	NV	LO	
October	01	078	G	G	F	F	05	00	65	2 08	NV	NV	LO	
	02	076	G	G	F	F	05	00	65	2 08	NV	NV	LO	

## PEAK PLANETARY 10-DAY GEOMAGNETIC ACTIVITY OUTLOOK (23 SEP - 02 OCT)

EXTREMELY SEVERE												HIGH
VERY SEVERE STORM												HIGH
SEVERE STORM												MODERATE
MAJOR STORM												LOW - MOD.
MINOR STORM												LOW
VERY ACTIVE												NONE
ACTIVE		*	*									NONE
UNSETTLED	**	***	***	***	**	**	**	**	**	**	***	NONE
QUIET	***	***	***	***	***	***	***	***	***	***	***	NONE
VERY QUIET	***	***	***	***	***	***	***	***	***	***	***	NONE
-----	---	---	---	---	---	---	---	---	---	---	---	-----
Geomagnetic Field	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		Anomaly
Conditions	Given in 8-hour UT intervals											Intensity

CONFIDENCE LEVEL: 70%

NOTES:

Predicted geomagnetic activity is based heavily on recurrent phenomena. Transient energetic solar events cannot be predicted reliably over periods in excess of several days. Hence, there may be some deviations from the predictions due to the unpredictable transient solar component.

## 60-DAY GRAPHICAL ANALYSIS OF GEOMAGNETIC ACTIVITY

30	M
28	AM

27		A			AAM	
26		A			AAM	
24		A			AAM	
22		A			AAM	
21		AA			AAM	
20		AA			AAM	
18		AA			AAMA	
16	A	A AA			AAMA	
15	A	AAAAAA			UAAMAA	
14	A	AAAAAA			UAAMAA	
12	AU	AAAAAA	U	U	UAAMAA U	
10	UAU	AAAAAA	U	U	UAAMAA U	
9	UAUU	AAAAAAU	U	U	UAAMAAUUU UU	
8	UAUUUU	AAAAAAU	UU U	U	UAAMAAUUU UU	
6	QUAUUUUU Q	AAAAAAUUU	UUUU	UUUU	UQ UUAAMAAUUUUUU Q	
4	QUAUUUUUQQ QQ	QAAAAAAUUU	QUUUUU	QUUUUU	QUQQ UUAAMAAUUUUUUQQ Q	
3	QUAUUUUUQQQQQQ	QAAAAAAUUU	QUUUUU	QUUUUU	QUQQQUUAAMAAUUUUUUQQQQ	
2	QUAUUUUUQQQQQQQQ	AAAAAAUUU	QUUUUU	QUUUUU	QUQQQUUAAMAAUUUUUUQQQQ	
0	QUAUUUUUQQQQQQQQ	AAAAAAUUU	QUUUUU	QUUUUU	QUQQQUUAAMAAUUUUUUQQQQ	

Chart Start Date: Day #207

#### NOTES:

This graph is determined by plotting the greater of either the planetary A-index or the Boulder A-index. Graph lines are labelled according to the severity of the activity which occurred on each day. The left-hand column represents the associated A-Index for that day.

Q = Quiet, U = Unsettled, A = Active, M = Minor Storm,

J = Major Storm, and S = Severe Storm.

#### CUMULATIVE GRAPHICAL CHART OF THE 10.7 CM SOLAR RADIO FLUX

101		
100		*
099		*
098		*
097		*
096		*
095		* *
094		****
093		****
092		*****
091		*****
090		*****
089	*	*****

088			*		*****	
087			*		*****	
086			*		*****	
085			*		*****	
084			**		*****	
083			**	*	*****	
082			**		*****	
081			****		*****	
080			****		*****	
079			****		*****	
078			* **** *		*****	
077			*****		*****	
076		*	* * *	*****	*****	
075		*	**** *****	*****	*****	
074		*****	*****	*****	*****	
073		*****	*****	*****	*****	
072		*****	***** ** *	*****	***** *	
071		*****	*****	*****	***** *	
070		*****	*****	*****	*****	
069		*****	*****	*****	*****	

-----

Chart Start: Day #206

# GRAPHICAL ANALYSIS OF THE 5-DAY AVERAGE SOLAR FLUX

096						
095				*		
094				**		
093				**		
092				****		
091				*****		
090				*****		
089				*****		
088				*****		
087				*****		
086				*****		
085				*****		
084				*****		
083				*****		
082			**	*****		
081			****	*****		
080			*****	*****		
079			*****	*****		
078			*****	*****		
077			*****	*****		

```

076 | **                *****                *****
075 | ***                *****                *****
074 | *****                *****
073 | *****                *****
072 | *****                *****
071 | *****
070 | *****
069 | *****

```

-----

Chart Start: Day #206

# GRAPHICAL ANALYSIS OF THE 10-DAY AVERAGE SOLAR FLUX

```

091 | -----
090 |                ****
089 |                *****
088 |                *****
087 |                *****
086 |                *****
085 |                *****
084 |                *****
083 |                *****
082 |                *****
081 |                *****
080 |                *****
079 |                *****
078 | *                *****
077 | ***                *****
076 | ****                *****
075 | *****                *****
074 | *****                *****
073 | *****                *****
072 | *****
071 | *****
070 | *****

```

-----

Chart Start: Day #206

# GRAPHICAL ANALYSIS OF THE 20-DAY AVERAGE SOLAR FLUX

```

084 | -----
083 |                *****

```

```

082 |                                     ***** |
081 | **                                     ***** |
080 | ***                                   ***** |
079 | *****                             ***** |
078 | *****                             ***** |
077 | *****          *****          ***** |
076 | *****          *****          ***** |
075 | *****          *****          ***** |
074 | *****          *****          ***** |

```

-----  
Chart Start: Day #206

# GRAPHICAL ANALYSIS OF 90-DAY AVERAGE SOLAR FLUX

```

081 | ----- |
080 |                                     ***** |
079 | *****          *****          ***** |
078 | *****          *****          ***** |
077 | *****          *****          ***** |

```

-----  
Chart Start: Day #206

## NOTES:

The 10.7 cm solar radio flux is plotted from data reported by the Penticton Radio Observatory (formerly the ARO from Ottawa). High solar flux levels denote higher levels of activity and a greater number of sunspot groups on the Sun.

## CUMULATIVE GRAPHICAL CHART OF SUNSPOT NUMBERS

```

106 | ----- |
101 |                                     * |
096 |                                     * |
091 |                                     ** * |
086 |                                     **** * |
081 |                                     ***** |
076 |                                     ***** |
071 |          * *          ***** |
066 |          * *          ***** |
061 |          *****          ***** |
056 |          *****          ***** * |
051 |          *****          ***** * |

```



## Low Latitude Paths

CONFIDENCE LEVEL ----- 85%	EXTREMELY GOOD												
	VERY GOOD												
	GOOD	***	***	***	***	***	***	***	***	***	***	***	***
	FAIR												
	POOR												
	VERY POOR												
	EXTREMELY POOR												
	-----												
	PROPAGATION QUALITY	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
		Given in 8 Local-Hour Intervals											

NOTES:

NORTHERN HEMISPHERE

SOUTHERN HEMISPHERE

High latitudes $\geq 55$	deg. N.		High latitudes $\geq 55$	deg. S.
Middle latitudes $\geq 40 < 55$	deg. N.		Middle latitudes $\geq 30 < 55$	deg. S.
Low latitudes $< 40$	deg. N.		Low latitudes $< 30$	deg. S.

## AURORAL ACTIVITY PREDICTIONS (23 SEP - 02 OCT)

## High Latitude Locations

	EXTREMELY HIGH											
	VERY HIGH											
	HIGH											
-----	MODERATE	*	*									
70%	LOW	***	***	***	**	**	**	**	**	**	**	***
	NOT VISIBLE	***	***	***	***	***	***	***	***	***	***	***
	-----	---	---	---	---	---	---	---	---	---	---	---
	AURORAL INTENSITY	Fri Eve.	Sat Twilight	Sun /Midnight	Mon /Morn.	Tue	Wed	Thu	Fri	Sat	Sun	

## Middle Latitude Locations

CONFIDENCE LEVEL ----- 70%	EXTREMELY HIGH											
	VERY HIGH											
	HIGH											
	MODERATE											
	LOW											
	NOT VISIBLE	***	***	***	***	***	***	***	***	***	***	***
	-----	---	---	---	---	---	---	---	---	---	---	---
	AURORAL	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
	INTENSITY	Eve.Twilight/Midnight/Morn.Twilight										

# Low Latitude Locations

CONFIDENCE LEVEL ----- 95%	EXTREMELY HIGH												
	VERY HIGH												
	HIGH												
	MODERATE												
	LOW												
	NOT VISIBLE	***	***	***	***	***	***	***	***	***	***	***	***
	-----	---	---	---	---	---	---	---	---	---	---	---	---
	AURORAL	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
	INTENSITY	Eve.Twilight/Midnight/Morn.Twilight											
	-----												

## NOTE:

Version 2.00c of our Professional Dynamic Auroral Oval Simulation Software Package is now available. This professional software is particularly valuable to radio communicators, aurora photographers, educators, and astronomers. For more information regarding this software, contact: "Oler@Rho.Uleth.CA", or "COler@Solar.Stanford.Edu".

For more information regarding these charts, send a request for the document, "Understanding Solar Terrestrial Reports" to: "Oler@Rho.Uleth.Ca" or to: "COler@Solar.Stanford.Edu". This document, as well as others and related data/forecasts exist on the STD BBS at: (403) 756-3008.

\*\* End of Report \*\*

Date: 26 Sep 1994 17:57:33 GMT

From: ihnp4.ucsd.edu!swrinde!gatech!news.byu.edu!netline-fddi.jpl.nasa.gov!nntp-server.caltech.edu!news.cerf.net!hacgate2.hac.com!usenet@network.ucsd.edu

Subject: TH-75A mods (marine VHF broadcast)

To: info-hams@ucsd.edu

In article 001588CE@olympus.net, vaughnwt@olympus.net (Bill Vaughn) writes:

>In article <CwHrtw.7q2@borland.com> eomiya@genghis (Elliot Omiya) writes:

>>Is it possible to modify a Kenwood TH-75A (2m/440) so that it can

>>broadcast on VHF 9 and 16 (I think 16 is 156.800 but I'm not sure).

>>Also, is it "legal" to do such a modification?

>

>This is very illegal. You will be better off just buying a marine radio. They

>are much cheaper than ham gear. And you will have a 25 watt rig. Even after

>you get your marine station license it would be cheaper than your handheld.

>Don't take short cuts with your safety on the water.

Actually, doing the modification is not illegal. Transmitting on those frequencies with a transmitter that is not type accepted for such use would be illegal, however. Except that in an emergency, it is legal to use whatever means necessary to summon assistance.

The FCC rules for marine radios require an (expensive) license just to possess one on a boat, even if you don't use it. To me, this is very counter productive as far as safety is concerned, as it discourages the occasional boater from obtaining a useful piece of emergency equipment. However, if you have an amateur license, your station is licensed by the FCC (as required by 47 CFR 80.13(a) for all stations in the maritime service) and you are breaking no laws just because it is capable of being used on frequencies outside the amateur bands. If you actually use that capability in a non-emergency, then the FCC can come down on you.

Disclaimer: I'm no lawyer and wouldn't want to be one.

-Brian  
suggs@tcville.es.hac.com

-----

End of Info-Hams Digest V94 #1066  
\*\*\*\*\*